AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended): A multiple wavelength surface-emitting laser device comprising:

a substrate; and

a plurality of surface-emitting lasers that are formed on the substrate by a continuous manufacturing process,

wherein each of said plurality of surface-emitting lasers comprises:

a bottom reflection layer on the substrate, that is doped with impurities of a first type and that is composed of alternating semiconductor material layers having different refractive indexes;

an active layer on the bottom reflection layer;

an intermediate layer that is doped with impurities of a second type on the active layer;

a top electrode on the intermediate layer, said top electrode having a window through which light is emitted; and

a dielectric reflection layer where dielectric materials with different refractive indexes are alternately layered on the intermediate layer and the top electrode to be dielectric layers of a thickness suitable for a ~~desired~~ selected resonance wavelength, whereby the ~~desired~~ selected

resonance wavelength is controlled by adjusting the thickness of the dielectric layers of the dielectric reflection layer.

2. (Original) The multiple wavelength surface-emitting laser of claim 1, wherein the dielectric reflection layer is composed of two different dielectric materials with different refractive indexes.

3. (Original) The multiple wavelength surface-emitting laser of claim 2, wherein the dielectric reflection layer is composed of any two dielectric materials selected from the group consisting of TiO_2, Ta_2O_5, ZrO_2, HfO, SiO_2 and MgF_2.

4. (Original) The multiple wavelength surface-emitting laser of claim 1, wherein the dielectric reflection layer is composed of any two dielectric materials selected from the group consisting of TiO_2, Ta_2O_5, ZrO_2, HfO, SiO_2 and MgF_2.

5. (Original) The multiple wavelength surface-emitting laser device of claim 1 further comprising a high resistance part that confines electric current between the active layer and the top electrode.

6. (Currently amended): A method of manufacturing a multiple wavelength surface-emitting laser device comprising the steps of

sequentially forming, on a prepared substrate, a bottom reflection layer, that is doped with impurities of a first type and composed of alternating semiconductor material layers having different refractive indexes, an active layer and an intermediate layer that is doped with impurities of a second type;

forming an arrangement of a plurality of surface-emitting lasers by removing, from a region separating the surface emitting lasers, the intermediate layer, the active layer and a part of the bottom reflection layer by etching;

forming on the intermediate layer of each surface-emitting laser a top electrode having a window through which light is emitted; and

forming on at least one of the intermediate layer and the top electrode of each surface-emitting laser, a dielectric reflection layer where different dielectric materials are alternately layered to be dielectric layers of a thickness suitable for a ~~desired~~ selected resonance wavelength, whereby the ~~desired~~ selected resonance wavelength is controlled by adjusting the thickness of the dielectric layers of the dielectric reflection layer.

7. (Original) The method for manufacturing a multiple wavelength surface-emitting laser device of claim 6, wherein the dielectric reflection layer is composed of two different dielectric materials with different refractive indexes.

8. (Original) The method for manufacturing a multiple wavelength surface-emitting laser device of claim 7, wherein the dielectric reflection layer is composed of any two dielectric materials selected from the group consisting of TiO_2, Ta_2O_5, ZrO_2, HfO, SiO_2 and MgF_2.

9. (Original) The method for manufacturing the multiple wavelength surface-emitting laser device of claim 7, wherein the dielectric reflection layer is formed by using an optical deposition unit.

10. (Original) The method for manufacturing the multiple wavelength surface-emitting laser of claim 6, wherein the dielectric reflection layer is composed of any two dielectric materials selected from the group consisting of TiO_2, Ta_2O_5, ZrO_2, HfO, SiO_2 and MgF_2.

11. (Original) The method for manufacturing the multiple wavelength surface-emitting laser device of claim 6, wherein the dielectric reflection layer is formed by using an optical deposition system.

12. (Original) The method for manufacturing the multiple wavelength surface-emitting laser of claim 6 further comprising a step of forming a high resistance part that confines electric current between the active layer and the top electrode.

13. (Currently amended): A multiple wavelength surface-emitting laser device comprising:

a substrate; and

a plurality of surface-emitting lasers formed on the substrate by a continuous manufacturing process,

wherein each of said plurality of surface-emitting lasers comprises:

a bottom reflection layer on the substrate, that is doped with impurities of a first type and that is composed of alternating semiconductor material layers having different refractive indexes;

an active layer on the bottom reflection layer;

an intermediate layer that is doped with impurities of a second type on the active layer;

a top electrode on the intermediate layer, said top electrode having a window through which light is emitted; and

a dielectric reflection layer comprising dielectric layers composed of dielectric materials with different refractive indexes alternately layered on the intermediate layer and the top electrode so that a thickness of the dielectric layers is optimized for a ~~desired~~ selected resonance wavelength, whereby the ~~desired~~ selected resonance wavelength is controlled by adjusting the thickness of the dielectric layers of the dielectric reflection layer.